

<b>Case Material Received – Continued</b>
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	Texas Department of Community Supervision and Corrections Department Records
	Defendant's Photo
	DWI
	Electronic Journal
	Evidence Transmittal 1-3
	Floor Plan
	Fort Worth Crime Lab
	Fort Worth P.D. Office Corr.
	Galveston Interview
	Galveston P.D. Report
	Greer Statement
	Guest Register
	Latent Prints
	License Search
	Miranda Warning
	Misd. Assault
	Photo Spread
	Property Record
	Reservation Summary
	Search Contest
	State Motions
	Syren Statement
	TCME Investigator Rpt. 1 & 2
	Vehicle impound
	Vehicles of Nation
	Walgreen Receipt
	Will – PLS
	Tarrant County Jail records
	Jacksboro State Jail records

## **Appendix B**

### **Description of Selected Psychological Instruments**

**State of Texas v. Billy Jack Crutsinger; Cause No. 0885306D**

The Adult Social History Self-Report Survey queries respondents about the details of their adult marital and love relationships, as well as their sexual history. The individual's residential history, religious preferences, and hobby preferences are elicited. Lastly, this self-report instrument requests relevant details concerning the respondent's offspring.

The Alcohol and Drug Use History Self-Report Survey queries the frequency and quantity of an individual's use of a broad range of drugs and alcohol. In addition, respondents are asked about whether or not they have ever experienced a variety of common substance abuse and dependence symptoms.

The Birth History Self-Report Survey is a brief instrument designed to elicit information about an individual's delivery and birth, as well as pertinent family information for that time period.

The Childhood Social History Self-Report Survey is a detailed instrument designed to elicit information about an individual's childhood environmental and economic conditions, as well as pertinent family information for that time period.

The Collateral Contact List identifies contact information and pertinent details of an individual's relationships with immediate and extended family, co-workers, employers, friends, and relevant others.

The Criminal History – Self-Report Survey is a detailed self-reported accounting of an individual's juvenile and adult criminal history. Information about an individual's mental state at the time of an offense is elicited for each offense, be it a misdemeanor or a felony. Offense disposition information and penal disciplinary records are queried.

The Educational History – Self-Report Survey is a self-report instrument used to elicit a detailed list of schools attended and academic success and difficulties.

The Employment and Military History - Self-Report Survey is a self-report instrument used to elicit a detailed accounting of an individual's military and employment history.

The Medical and Mental Health History - Self-Report Survey is a self-report instrument designed to elicit a broad account of an individual's lifelong medical and mental health history. Neurological issues are a particular focus. In addition, respondents are asked about the presence of over 50 symptoms of medical and psychological disorders.

### **Description of Selected Psychological Instruments – Continued**

Personal Interests - Self-Report Survey is a self-report instrument used to identify an individual's hobbies, interests, and use of media.

The Personality Disorder Questionnaire IV (PDQ-IV) is a screening instrument for all DSM-IV personality disorders.

The Religious History - Self-Report Survey is a self-report instrument designed to outline an individual's childhood and adult religious experiences and beliefs.

The Repeatable Battery for the Assessment of Neuropsychological Status (RBANS) is an individually administered core test battery measuring attention, language, visiospatial / constructional abilities, and immediate and delayed memory. The R-BANS is comprised of 12 subtests and is normed for use with individuals 20 years of age and older.

The Sacks Sentence Completion Test (SSCT) is a projective instrument in which a respondent is asked to quickly complete unfinished sentences with the first thought that comes to their mind. The SSCT provides information about an individual's attitudes and beliefs about people and the world around them.

The Tattoo and Scar Identification Form catalogues an individual's tattoos and scars including where they are located on the body, when and how obtained, meaning of the tattoo and other pertinent details.

The Test of Memory Malingering (TOMM) is a 50-item recognition test that includes two learning trials and a retention trial. It is used to assist in discriminating between memory-impaired individuals and malingerers.

The Trail Making Test – Part A and B (Trails A, Trails B) is a two-part, timed, paper and pencil test that is considered one of the best available clinical screening instruments for brain damage.

The Wechsler Adult Intelligence Scale-Third Edition (WAIS-III) is the most widely used adult intelligence test. It provides both a verbal intelligence score and a performance intelligence score. Aside for intellectual abilities, the WAIS-III provides data regarding psychopathology, neuropsychological functioning and personality structure.

The Wide Range Achievement Test - Revision 3 (WRAT-3) is an academic achievement test that provides information concerning an individual's Reading, Spelling, and Arithmetic abilities. Scores are related to particular grade levels.

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**Collateral Interview Summaries**

**The State of Texas vs. Billy Jack Crutsinger**

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**James R. Branton, long time friend of the defendant's**

1215 Shadow Lane  
Fort Worth, Texas 76117  
(817) 834-6680

**Impressions of This Witness**

Mr. Branton would make a reluctant witness. He stated that he is in ill health and "can hardly breathe." It appeared to me that Mr. Branton only has a very superficial knowledge of Mr. Crutsinger but that his impression is favorable.

**Witness Report**

- Mr. Branton stated that he has known Mr. Crutsinger for approximately fifteen years. They went to bars together and saw each other at least one or two times a week. In addition, Mr. Crutsinger sometimes worked for Mr. Branton doing construction. When questioned regarding what this meant, Mr. Branton stated "whatever someone needs."
- Mr. Branton stated that he would trust Mr. Crutsinger with "anything." He could not believe that this has happened.
- Mr. Branton believes that Mr. Crutsinger must have been on drugs in order to commit this offense.
- Mr. Branton described Mr. Crutsinger as "always easy going, everybody liked him." He stated that his entire family and all of his sons liked Mr. Crutsinger. When asked if his sons would possibly like to testify on behalf of Mr. Crutsinger, Mr. Branton backed off and stated that he would have to ask them and promised to pass on my telephone number should they wish to speak with me. They have not called.
- Mr. Branton knew that Mr. Crutsinger was "hurting" at the time of the offense and that he was down on his luck. He would not elaborate or could not elaborate.
- Mr. Branton denied that Mr. Crutsinger was an alcoholic, as he could "do without" alcohol at times.

Dr. Goodness

Case: Billy Jack Crutsinger

- Mr. Branton stated that Mr. Crutsinger enjoyed playing music, was always playing the jukebox and loved the bars.
- Mr. Branton met Mr. Crustinger's wife, Linda, once long ago but could not recognize her now.

Dr. Goodness

Case: Billy Jack Crutsinger

**Donald E. Hall, long time friend of the defendant's**

2513 West Lotus Ave.  
Fort Worth, Texas 76111  
(817) 838-8770

**Impressions of This Witness**

Mr. Hall is a fellow alcoholic who has little relevant data to offer.

**Witness Report**

- Mr. Hall reported that he has known Mr. Crutsinger for approximately fifteen years and that they met in a "beer joint" and worked together every once in a while, hiring each other to do concrete and asphalt work. Sometimes the two spent eight hours a day together as Mr. Hall was a bartender at one time and Mr. Crutsinger would stay in the bar for long periods.
- Mr. Hall had not heard from Mr. Crutsinger in approximately two years.
- Mr. Hall expressed disbelief that Mr. Crutsinger would do anything like this.
- Furthermore, he stated "he would steal you blind, but that's about it." He gave an example that if you had a five dollar bill in your home "and he walked through there he would take it."
- Stated that he was never concerned about Mr. Crutsinger's mental health.
- Mr. Crutsinger was an alcoholic, but he was a happy drunk. In fact, he was happy all of the time. Mr. Hall stated that Mr. Crutsinger thought everything was a joke, took nothing seriously and stressed again that everything was a joke to Mr. Crutsinger.
- Stated that Mr. Crutsinger would "lie to you, knowing that you knew he was lying, but would finish it anyway." He explained that even if you told Mr. Crutsinger that you did not want to hear his lie that Mr. Crutsinger would say "but let me finish it." He stated that Mr. Crutsinger "would lie about anything."
- Mr. Hall stated that Mr. Crutsinger had a lot of chances with the ladies, but did not chase women, "not that I am calling him a queer."
- Mr. Hall stated that he does not want to testify on behalf of Mr. Crutsinger as he is now in a wheelchair and does not leave the house much and does not believe that he has anything useful to say. He declined to provide me with additional contacts.
- Mr. Hall stated that he "never knew Mr. Crutsinger to say anything important."
- Mr. Hall stated that Mr. Crutsinger never spoke about his children, but did always praise his mother and would show you her picture two or three times a night as he would say how pretty she was.

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Case: Billy Jack Crutsinger

**Louise Crutsinger, the defendant's mother**

510 Ridgecrest Cr.  
Fort Worth, Texas  
(817) 306-8389

**Impressions of this Witness**

Louise is emotionally fragile. She cried a great deal throughout our conversation. She would likely have great difficulty in court. Louise does not wish to come to the trial. She stated that she has health problems and never gets out of the house anymore, but is torn because the attorneys told her she must come. She finally stated that she was not certain if she would come or not. Her daughter later called and forbid further contact with Louise as she is in ill health and this case is too hard on her.

She keeps calling me back for no apparent real reason and cries. I will soon stop accepting her calls as they do not produce additional information.

**Witness Report**

- Louise has not seen Billy Jack in three years. She was moved to Garland by her sisters so that she would not have to know anything about Billy Jack because he was "so bad." He was drinking too much and doing things that distressed her.
- She stated that she does not know "what" she has been sick with, she has spent time in a nursing home and has had memory lapses, but she does not know what is wrong with her.
- In regards to the injury to an elderly charge, she stated that she is unclear as to whether or not he actually meant to hit her or whether it was an accident. She stated that "if he did, he did pick me up from the floor."
- Billy Jack's sister's, Patsy's death hit him hard. He often went to the cemetery and has pictures of himself there. Mrs. Crutsinger was supposedly going to send me some of these.
- Mrs. Crutsinger stated that Billy Jack learned to drink from his father. His father was not abusive when he was drunk, but he did drink a lot. He was arrested at least two or three times for drinking and his boss would always go and get him out of jail and Mrs. Crutsinger does not go to jails. Ralph, Billy Jack's brother, also drank a lot but "just quit" one day.
- Louise believes that losing his children affected Billy Jack quite badly. He did not ever talk about his feelings in this regard, but she is told that when he was drinking he would make comments to his wives. Some of them told Louise that Billy Jack would cry about his children when he was drinking.

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Case: Billy Jack Crutsinger

- She reported that Billy Jack did not get along with anyone when he was drinking and that he had a "mean streak in him." She stated that he was hard to predict in that one time he would be mean and the next time he would not.
- She stated that the wreck in which Patsy died sent him "to the bend."
- Mrs. Crutsinger stated that she always "helped" Billy Jack out. She took care of him financially and bailed him out of trouble many times, but proudly stated that she never went to a jail to see him and that he had to get out of jail himself.
- When he was not drinking he helped around the house, "he cooked, cleaned and you couldn't find a nicer person."
- She feels that Billy Jack was close to all of his siblings when he was growing up.
- If Mrs. Crutsinger had a favorite child, Billy Jack was it; but she believes that she did not favor any of her children.
- Billy Jack was good to his handicapped brothers and sisters.
- They all wonder if Billy Jack had a mental problem, "deep in his mind."
- Mrs. Crutsinger stated that the problem really got worse after the wreck. It is impossible to make her clarify what "the problem" was other than drinking and being mean.
- Mrs. Crutsinger stated that Billy Jack did good in school and he "nearly finished the eleventh grade!" She stated that she does not know why he dropped out of school.
- Mrs. Crutsinger does not remember writing Judge Gill a letter and stated that she has never written any judge.
- Mrs. Crutsinger stated that Billy Jack was the baby of the family and was always acting silly and often saying "I am the baby boy!"

Dr. Goodness

Case: Billy Jack Crutsinger

because she would call Ms. Staples when Billy Jack beat on her. As for Linda, she was somewhat stronger in Ms. Staples' opinion.

- Billy Jack would "destroy any money that you got." Ms. Staples believes that Linda inherited some money and Billy Jack "got his hands on the money."
- She married Billy Jack because she was pregnant, but she did love him as he was her "first true love."
- Although he was never bad to her children, he never did any "care taking of the kids," he was "just there."
- He chased women and drank all the time. She denies that she ever cheated on him.
- He was always jealous, whether or not he was drinking. "Just a jealous person."
- Ms. Staples stated that Billy Jack has had enablers enable him all of his life. She has enabled him, his mother, his brother, Ralph, JoAnn, Linda, and Ray Sinkfield are just a few of the enablers that have helped Billy Jack avoid responsibility for his actions. Ray Sinkfield is someone who fronted Billy Jack money for a business and is a close family friend. She believed that mainly women in his life have enabled him.
- He did not cook, clean, take care of kids. He did fix up the rent house that they had for a short time, but he never stuck to anything. He never stuck to any job; he seemed to get bored with them.
- When it came to our kids, especially the sixteen year old, he never had anything to do with them. There was a short time when he was with JoAnn that he did get Will (I believe Will is Billy Jack, Jr.), but JoAnn had a child of the same age and she was actually the one who took care of them according to Ms. Staples.
- "If he is trying to say he went nuts about my son's death, he is full of it and I will not have it." It is her responsibility to tell the truth and she intends to do so if she is called to the trial.
- She heard rumors that he had abused JoAnn's child.
- She voluntarily added that he was not beaten by his father.
- She does believe that when Patsy died that Billy Jack took it hard, but this is because of second hand information she has received and not because of anything she observed.

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Case: Billy Jack Crutsinger

**Darlene Glenn, the defendant's sister**

151 E. Bennett  
Cripple Creek, Colorado  
(719) 689-0353

**Impressions of this Witness**

Darlene is very angry with Billy Jack and would be pleased to say how horrible she thinks he is in front of a jury, but does not want to go through the trauma of doing so. She could attest to his constantly being rescued by others. She was going to come to the trial, but changed her mind as it would be "too upsetting" and it "is not worth it."

**Witness Report**

- Darlene stated that she would like everyone to stop contacting her mother, as her mother is in very bad mental and physical shape. She "will get an attorney" to prevent further contact if necessary.
- Darlene stated that her mother is a good woman. Billy Jack is not a good person.
- The D.A. talked to her at length about Billy Jack, whom she resents very badly. She does not even feel Billy Jack is related to her anymore.
- She stated that Billy Jack had been rescued his entire life. Others always got him out of things that another person would spend years in jail for.
- Billy Jack took his handicapped brother's and sister's money that they earned while working for Easter Seals in the hot sun at fifty cents an hour.
- Everyone learned to hide their wallets as Billy Jack took money from their wallets, as well as jewelry, AC, tools – you name it, he took it.
- Darlene does not know why the family let him get away with it.
- Billy Jack threatened their mother multiple times. Finally, Billy Jack threatened his mother to the point that she believed he would harm her. He pulled the phone out of the wall and held her hostage for a night. As a result, the next day Billy Jack's aunt moved his mother to Garland in order to protect her from Billy Jack.
- Darlene was always "sickened" by her mother's report that Billy Jack had done some chore for the family when Darlene felt that he should do chores given that he was living off of all of them.
- Darlene says that he took his mother's checks, credit cards and money.
- Darlene is the one who pressed the injury to an elderly charge, as her mother was not going to.

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Case: Billy Jack Crutsinger

- Her mother was never afraid of Billy Jack until he threaten to kill them all the night before she moved to Garland.
- Ralph is the sweetheart, he bends over backwards for his mother and Johnnie, but he is also soft when it comes to Billy Jack.
- Darlene married very young and began dealing with "another alcoholic." Thus, she did not grow up with Billy Jack very much. Her experience with him was mostly as a man.
- Billy Jack threatened to kill Darlene when she pressed the injury to an elderly charge. He told her to go back to Colorado or he would kill her or have it done. She took him very seriously, as he was not drunk at the time. Thus, she notified the police where she lives in Cripple Creek, Colorado.
- Darlene does not know why people would give him money.
- She confronted her mother about Billy Jack, but her mother had no willpower about Billy Jack or even Ralph, as Ralph was also bad before he stopped drinking. Her handicapped brother and sister often just handed over their money to Billy Jack.
- Billy Jack rarely worked. When he did, he often hired to people to do his work for him and he would simply check on them. He never held a steady job.
- His drinking got a whole lot worse about 1994.
- All of her family were alcoholics.
- Her mother simply shut down after Patsy's death. Linda began taking care of Louise. Linda was Billy Jack's wife. Darlene realized that money was coming up missing and that Linda was signing her mother's checks. Darlene believed that her mother was extremely over medicated as she would have no memory of talking to Darlene five minutes after doing so. Louise took to her bed, used only a bedpan, and began allowing Linda to feed her instead of feeding herself. Darlene became so concerned that she came to town and took her mother to her doctor, Dr. Post. When Darlene tried to tell Dr. Post about her mother not even feeding herself, her mother told her to "hush" and that she could "go back to Colorado" if she did not stop talking. Darlene believes her mother enjoyed the attention that she was getting from Linda and Billy Jack.
- Billy Jack ended up with the majority of her mother's settlement from Patsy's death.
- Darlene stated that anytime anyone tried to do anything about Billy Jack her mother would become quite cognizant and would rule the roast to protect him.

Dr. Goodness

Case: Billy Jack Crutsinger

- Louise would always tell Darlene to back off if she got too pushy about Billy Jack. Thus, Darlene felt like she "got stopped like a brick wall every time I tried to do anything."
- Darlene is surprised that it was not her mother and brother that were killed rather than these women since Billy Jack had threatened to do so.
- Louise has placed Billy Jack's picture on her T.V. and beside her bed and it makes Darlene sick.
- Darlene's son used to hang out with Billy Jack, but quit doing so because Billy Jack threatened Darlene's life.

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Case: Billy Jack Crutsinger

**Geraldine Suggett, former girlfriend of the defendant's**  
157 PR 477  
Hillsboro, Texas  
(254) 582-2939

**Impressions of this Witness**

Ms. Suggett continues to have feelings for Billy Jack both positive and negative. She does not wish to testify at his trial.

**Witness Report**

- Ms. Suggett did not know Billy Jack until a few years ago. They met in a bar and she "unfortunately got involved with him."
- Ms. Suggett reported that Billy Jack was initially very good to her, but then he began stealing from her and hocking her belongings such as her grill.
- She stated that she gave him money to pay for a truck, but he did not really pay for it. She felt "ripped off."
- Ms. Suggett believes that Billy Jack lived with her for approximately three months before he was incarcerated in Jacksboro Jail. Ms. Suggett reported that she did not want anything to do with Billy Jack once he was incarcerated, but as time went on she succumbed to his pleas that he had "changed."
- Ms. Suggett allowed Billy Jack to return to her home when he was released from Jacksboro. She stated that they lived as platonic friends. She stated that he again began "ripping her off" and gained money from her under "false pretenses." She stated that he took a trailer from her and pawned the trailer. She confronted Billy Jack and he admitted that he had pawned the trailer for two hundred dollars. However, when she investigated the matter, she found that he had actually gotten three hundred dollars for the trailer. When she again confronted him, he gave her a hundred dollar hot check in exchange for her giving him an additional hundred dollars cash. It is unclear to me why she would give him the cash. He then stole the title of the trailer from her.
- When he is not drinking, he is a good person. When he is drinking he is "bad."
- "I really enjoyed what time I had with him."
- Ms. Suggett had a repo man repo a truck that she had paid on for Billy Jack and Billy Jack responded by saying that it was his. Billy Jack accused her of stealing the truck and the two went to court over the vehicle. The Judge readily decided that the truck belonged to Ms. Suggett and awarded her the truck. However, Billy Jack would not give her the keys and she had to have keys made.

Dr. Goodness

Case: Billy Jack Crutsinger

- She denies that Billy Jack engaged in physical abuse with her, she thought that he might try, but he never did.
- She can recall several instances of Billy Jack getting "too drunk to remember what he did, but he didn't want to discuss it."
- "I was desperately in love with him." She stated that she still cares for him and "this all still hurts."
- Ms. Suggett reported that she has had two alcoholic husbands and did not want another. She is happy to be out of the relationship with Billy Jack, but is currently in a relationship with yet another alcoholic whom she needs to get away from.
- Ms. Suggett last saw Billy Jack in 2002. He fought with her son over some unknown problem.
- Billy Jack was an extremely jealous person. He was jealous of her daughters.
- Ms. Suggett stated that on second thought, Billy Jack lied and stole even when he was sober.
- "I will always care about him, but don't condone what he has done."
- "He may be insane."
- "His hopes and dreams was to use somebody and use them and throw them away."
- Billy Jack wanted her to buy him a café by selling her land to get the money. She went on for quite some time about how the café was supposed to be Billy Jack's and not "theirs."
- Billy Jack took "their" dog and did not let her say good-bye to the dog.

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**Records Review**

**The State of Texas vs. Billy Jack Crutsinger**

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**Educational Records**

**Date of Review: 08/05/2003**

- Transcripts from Mr. Crutsinger's schools indicate that he has average to slightly below average grades throughout Junior and Senior High School. He was not involved in any Special Education programming, but it is important to note that he attended school before mandatory Special Education became law in 1974.

**John Peter Smith Hospital Records**

**Date of Review: 08/05/2003**

- Records from John Peter Smith Hospital indicate that Mr. Crutsinger was seen on a variety of occasions for various ailments and accidents. He apparently accessed JPS because this hospital provides indigent care for Tarrant County.
- Mr. Crutsinger has been diagnosed with the following conditions at various times: High Blood Pressure, Alcoholic Hepatitis, Angina and Shortness of Breath.
- Mr. Crutsinger was reportedly involved in a Motor Vehicle Accident in which his sister was killed. He also has reported other tragic deaths in his family. He has (had?) an invalid brother, for whom he cared.
- JPS records reveal that Mr. Crutsinger has been treated for depression and suicidal ideation with Zoloft.

**Tarrant County Probation Records**

**Date of Review: 08/05/2003**

- Job History: various reports indicate that he has worked as a laborer, construction worker and as a subcontractor installing asphalt and concrete, owning his own business named Billy Jack Crutsinger Construction Company. These records also refer to a friend who was employed by Mr. Crutsinger.

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Case: Billy Jack Crutsinger

## ➤ Criminal History: Probation records include the following charges:

<i>Date</i>	<i>Offense</i>	<i>Disposition</i>
3/1974	Robbery with Bodily Injury	Unknown
3/1977	Unlawfully Carrying a Weapon	Unknown
5/1980	Burglary	Unknown
3/1991	Driving with License Suspended DWI	Unknown
2/1993	Assault with Bodily Injury	Probation, motion to revoke probation, sent to TDC Substance Abuse Program in Mansfield
➤ Given one year suspended sentence ➤ Did not attend required Batterer's Intervention Program ➤ Reported to probation meetings with alcohol on his breath ➤ Did not attend probation meetings as required. ➤ Failed to pay probation fees and court costs. ➤ Probation revoked, one year state jail sentence. ➤ Referred to Substance Abuse Program for 105 days in Mansfield. Only made slight progress during his time there.		
2/1993	Driving with License Suspended	Unknown
6/1997	Injury to the Elderly—by Omission	Unknown
1/1998	Criminal Trespassing	Unknown
7/1998	Injury to the Elderly—Reckless— with Bodily Injury	Probation, probation violated, sentenced to one year state jail.
➤ Given three year probation (Deferred Adjudication) ➤ Did not pay required court costs, fees and restitution as stipulated. ➤ Did not keep appointments with counseling clinic. ➤ Referred for inpatient treatment, but only stayed 40 days of a 120 day program. Only entered program after probation officer gave him the ultimatum that he would enter a program or be returned to court as a probation violator. ➤ Continued to drink daily during his probation. ➤ Violent tendencies continued when he was using alcohol. ➤ Referred for Anger Management classes by probation officer, but did not attend classes. Eventually was terminated from program due to non compliance. ➤ Probation officer recommended that he would have to be placed in the Tarrant Co. Jail to maintain sobriety. ➤ Motion to Revoke Probation occurred leading to one year state jail sentence. ➤ Probation officer describes him as the "master manipulator." ➤ Would admit offense, but emphasized excuses for his behavior rather than accepting responsibility.		

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Case: Billy Jack Crutsinger

- Mr. Crutsinger was arrested in February of 1993 for Assault—Bodily Injury. The indictment indicates that he hit his wife, Linda, with his hand, causing bodily injury. The police report of the incident indicates that Haltom City Police were dispatched to the Crutsinger home for a domestic disturbance. Upon their arrival, police officer could hear people in the home “having words.” Upon answering the door, Mrs. Crutsinger was holding her face and indicated that Mr. Crutsinger had slapped her pulled her hair and twisted her arm. He also threw her into a chair with sufficient force so as to force her and her chair into a wall, leaving a hole in the wall. Mrs. Crutsinger’s son intervened to push Mr. Crutsinger off his wife. Mr. Crutsinger smelled of alcohol and appeared to be intoxicated, according to the police officer. The argument stemmed from Mrs. Crutsinger giving away their dogs to the Humane Society under orders from their landlord.
  - During the probationary period, it is documented on several occasions that Mr. Crutsinger did not bring required proof of attendance from his Batterer’s Intervention Program. When pressed, Mr. Crutsinger admitted to only attending three meetings and asked to be released from this requirement because he had been provided counseling while he was in Mansfield Correctional facility. He also reported to his probation meetings on at least one occasion with the smell of alcohol on his breath in spite of the prohibition of alcohol use in his probation conditions.
  - Mr. Crutsinger was given a one-year suspended sentence in October 1994 for Assault—Bodily Injury. He was placed on probation for a period of 24 months. A Motion to Revoke Probation was entered in September of 1995. It alleges that Mr. Crutsinger violated the conditions of his probation by failing to report to his probation officer as required, failing to pay required monthly fees and failing to attend a Batterer’s Intervention Program.
  - Secondary to Assault with Bodily Injury charge, Mr. Crutsinger participated in the Tarrant County Substance Abuse Program at the Community Correctional Facility in Mansfield. He was at the facility for 105 days in 1994. See below for information.
- The Injury to the Elderly charge in July 1998 resulted from an incident of domestic violence between Mr. Crutsinger, his wife and mother. Apparently, Mr. Crutsinger began an argument with his sister over the proceeds of a settlement check they had received—perhaps from the MVA occurring several years before, but this is not clear. When the mother intervened to tell Mr. Crutsinger to stop arguing with his sister, Mr. Crutsinger then hit his 74-year-old mother with his hand which caused her to fall against a door frame. This caused bruising and pain in her arm. The police report indicates that Mr. Crutsinger earlier had assaulted his two handicapped brothers by hitting them with a fist. Police indicated that they were going to file charges of Injury to an Invalid, but there is no record that this occurred. A witness indicated that Mr. Crutsinger then ripped a phone out of the wall so no one could call the police.
  - Mr. Crutsinger received three years probation (Deferred Adjudication) for the Injury to the Elderly charge. Attendance to required probation visits appear to

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Case: Billy Jack Crutsinger

be monthly for the first part of the probation, but less frequently after approximately one year. It is unclear whether the frequency of his visits was downgraded or whether he became less compliant with the required visits over time.

- Mr. Crutsinger did not pay required court costs, fees and restitution as required.
- Mr. Crutsinger was referred to Phoenix Associates Clinic for supportive outpatient therapy. However, he did not keep his appointments as scheduled. He eventually was referred for inpatient treatment due to his lack of compliance.
- 11-1998 Recommended for treatment at Pine St. (treatment clinic or program) but refused to remain in program claiming that he was "not appropriate" for their treatment. He was referred to Intensive Residential Treatment, but did not comply with this program either. Eventually, probation officers recommended that he serve time in the Tarrant County Jail in order to maintain sobriety. Notes from this time period indicate that Mr. Crutsinger was drinking daily and that his violent tendencies were reemerging with his alcohol use.
- 12-1998 Referred to Salvation Army treatment program/halfway house for 120 day program. Left after approximately 40 days without permission or being discharged from the program. He stated that he went home on a pass from there and chose not to return. Apparently, he entered this program when his probation officer gave him the ultimatum to enter into a drug abuse program or be returned to court as a probation violator.
- 6-1999 Referred by Probation Officer to Tarrant Community Outreach Center for Anger Management classes. Did not attend any of the classes. Was terminated from program.
- At one point, Mr. Crutsinger's probation officer describes Mr. Crutsinger as "a master manipulator and very uncooperative in the past and, unfortunately, I don't trust him."
- Evaluations done during probation indicate that Mr. Crutsinger would admit his offense, but would emphasize excuses for his behavior rather than accepting responsibility.
- A Probation violation charge occurred in December of 1999 as Mr. Crutsinger "failed to complete substance abuse assessment through the Treatment Alternatives to Incarceration Program." Motion to Adjudicate Guilt resulted in confinement in a state jail for one year.
- Probation revoked, sentenced to one year in Jacksboro State Jail. See below.

Dr. Kelly Goodness

Case: Billy Jack Crutsinger

**Tarrant County Substance Abuse Program Records**

**Date of Review: 08/05/2003**

- Secondary to the 1993 Assault with Bodily Injury charge, Mr. Crutsinger participated in the Tarrant County Substance Abuse Program at the Community Correctional Facility in Mansfield. He was at the facility for 105 days in 1994.
  - Over the course of his time there, Mr. Crutsinger showed slight progress over his admission. Over time, his reports became more positive. However, there were reports that Mr. Crutsinger as “ambivalent” to recovery process and that he thought he could “con the system” as late as the last few weeks he was in treatment.
  - Upon discharge, Mr. Crutsinger was recommended for counseling, particularly in terms of anger management. However, there are no records that indicate he ever received such counseling. Referrals were made by his probation officer, but Mr. Crutsinger never complied with the referrals.

**Jacksboro State Jail Records**

**Date of Review: 08/05/2003**

- Secondary to the Injury to the Elderly charge probation violation, Mr. Crutsinger served his year of confinement at the State Jail Facility in Jacksboro TX. His only behavioral report in those records indicates he was once cited for failure to attend his ABE class while at the jail.

**Galveston County Sheriff's Office Records**

**Date of Review: 08/05/2003**

- After allegedly committing his current offense, Mr. Crutsinger absconded from Tarrant County and was finally apprehended in Galveston County. He was booked into the Galveston County Jail where he remained for approximately two and a half months.
- While at the Galveston County Jail, Mr. Crutsinger was evaluated by a psychiatrist who noted a history of depression and suicidal ideation, based upon Mr. Crutsinger's self-report. The psychiatrist did not believe that Mr. Crutsinger required placement in the medical facility at that time. This would indicate that his mental status, while perhaps depressed, was not of grave concern.
- There were times in Galveston County Jail that Mr. Crutsinger was non-compliant with jail staff members and medical treatment. However, there is no further information regarding these acts of noncompliance.

Dr. Kelly Goodness

Case: Billy Jack Crutsinger

**Letter to Judge Gill from Louise Crutsinger Ely**

**Date of Review: 08/08/2003**

- Mr. Crutsinger's mother wrote a letter to the judge, apparently during the 2000 probation revocation hearing where Mr. Crutsinger was imprisoned for the assault on his mother. The copy of the letter is difficult to read, but the gist of the letter appears to be as follows:
  - She details the family dynamics present in her home. She indicates that she is 76-years-old and has a handicapped son, Johnny, for whom the family provides care.
  - She indicates that Mr. Crutsinger is the caretaker for his handicapped brother and elderly mother.
  - Mrs. Ely gives a history of tragedies befalling Mr. Crutsinger:
    - An automobile accident in which Mr. Crutsinger's sister was killed.
    - Finding Mr. Crutsinger's handicapped brother dead in his van bed.
    - Divorce from his wife of 13 years.
    - Death of three children.
  - Mrs. Ely indicated that Mr. Crutsinger was their "only way of having a fairly normal life." She indicated that it was Mr. Crutsinger that took them to the doctor and to the grocery store.
- Frankly, this sounds all too familiar. Mr. Crutsinger's failure to accept responsibility for his actions and to make excuses for his behavior may be a family trait.

**Autopsy of Pearl Jordan Magouirk**

**Date of Review: 08/04/03**

- 89 years old
- Seven stab wounds of her torso
- Four cut wounds of anterior neck
- No defensive wounds

**Autopsy of Patricia Magouirk Syren**

**Date of Review: 08/04/03**

- 71 years old
- Nine entry and one exit stab wounds of neck, torso and posterior arms
- Defensive cut wounds including right hand
- Eleven cuts on the palm and five cuts on the top of right hand
- Four cuts on left hand

# Exhibit D



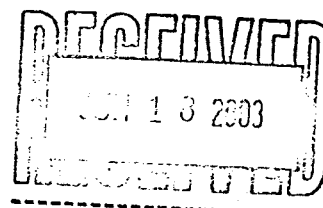
*Dr. Kelly R. Goodness*  
Clinical and Forensic Psychologist

121 Olive Street  
Keller, Texas 76248

(817) 379-4663  
Facsimile (817) 379-0320

June 16, 2003

William Ray  
Attorney at Law  
5041 Airport Freeway  
Fort Worth, Texas 76117-6252



**RE: Billy Jack Krutsinger, Cause No. 0885306**

Dear Mr. Ray:

Thank you for your interest in having me appointed to assist you in your capital case. Although you are familiar with my work, I will briefly outline my credentials in this letter for your easy reference. I am a Clinical Psychologist who specializes in forensic issues and am licensed in the state of Texas. I have a great deal of forensic experience and have been employed as a forensic specialist by both the state of Texas and as a private practitioner. My private practice is located in the Dallas / Fort Worth area and is focused almost exclusively on civil and criminal forensic cases (evaluation and treatment of individuals who have had, or are having, some interaction with the legal system). I served as the Chief Forensic Psychologist for the Behavior Management Treatment Unit of North Texas State Hospital – Vernon Campus (NTSH-VC) for over three years before recently resigning to focus on my private practice. NTSH-VC is the only maximum-security forensic psychiatric hospital in the state of Texas. There, I treated the 40 - 60 individuals considered the state's most difficult, dangerous and violent psychiatric patients. The patients that were in my care were sent to NTSH for competency to stand trial evaluations and treatment, sanity evaluations, manifest dangerousness, and for treatment following a NGRI finding. My position at NTSH-VC required that I evaluate numerous individuals each month and afforded me a breadth and depth of forensic experience that is generally unsurpassed by mental health professionals who have only worked in the private sector. In addition, I teach forensic psychology at the University of Texas at Dallas. I am well aware of the type of detailed preparation required for capital cases as a good portion of my practice involves the development of mitigation data in capital death cases.

In order to adequately prepare for mitigation (which must begin well before the fact-finding phase), a great deal of investigative interviewing, psychological testing, and record review must occur which will likely assist counsel in a variety of ways. My fee is \$125/hour for all work except travel time, which is \$75/hour. In addition, my travel expenses and case related expenses would be billed as incurred. You can expect that I would put in 75 to 90 hours prior to trial (or plea) and an additional 15 to 30 hours if testimony at mitigation is necessary. In addition, I utilize the services of a Social Worker and Psychological Associate to collect data for capital cases, as their time is billed at a much lower rate thereby reducing the cost to the State. The total estimated cost of mitigation services for a case, such as this capital case, is \$14,000 to \$17,000 plus expenses. The total fees may be more or less than

Dr. Goodness

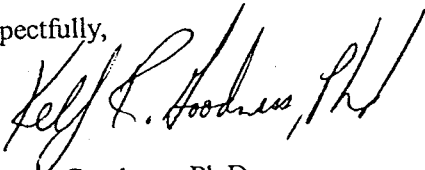
Page 2 of 2

estimated, depending on what is necessary to fully develop a particular case. I require a court order signed by the judge authorizing payment of my services before I will open the case or a \$15,000 retainer fee. The court order must include an authorized expenditure amount in order that all parties are protected and in order to ensure that adequate funds are available with which to complete the mitigation investigation.

I believe it is critical both for trial as well as mitigation to know what the mitigating issues might be in order to develop an appropriate trial strategy. Please note that it would be difficult, if not impossible to collect all of the information necessary for either trial or mitigation in anything less than three full months. Thus, swift action is required.

Once you have obtained these, please fax them to the above referenced facsimile number and notify my office so that I can may schedule and begin work. I will then provide you with a list of additional information that I require.

Respectfully,

A handwritten signature in black ink, appearing to read "Kelly R. Goodness, Ph.D.", with a stylized flourish at the end.

Kelly R. Goodness, Ph.D.  
Clinical and Forensic Psychologist

# Exhibit E



*Dr. Kelly R. Goodness*  
Clinical and Forensic Psychologist

121 Olive Street  
Keller, Texas 76248

(817) 379-4663  
Facsimile (817) 379-0320

July 10, 2003

VIA FACSIMILE

William Ray  
Attorney at Law  
5041 Airport Freeway  
Fort Worth, Texas 76117-6252

**RE: Billy Jack Krutsinger, Cause No. 0885306**

Dear Mr. Ray:

I was organizing Dr. Goodness' calendar and was concerned about your possible need for mitigation work. Dr. Goodness no longer accepts mitigation cases with trial dates less than three months away, due to the time required to conduct these comprehensive investigations. My concern is that Mr. Krutsinger's trial date is within the three month mark and I am uncertain if you are going to require mitigation work. Please let me know as soon as possible if I need to plan for this type of work for Mr. Krutsinger as Dr. Goodness' calendar is quite full. If you do want this work performed, I will need a Court Order appointing Dr. Goodness and authorizing the payment of her fees for our files.

Respectfully,

Heather Dasher  
Assistant to Kelly R. Goodness, Ph.D.

# Exhibit F



*Dr. Kelly R. Goodness*  
Clinical and Forensic Psychologist

121 Olive Street  
Keller, Texas 76248

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June 16, 2003

William Ray  
Attorney at Law  
5041 Airport Freeway  
Fort Worth, Texas 76117-6252

RE: Billy Jack Krutsinger, Cause No. 0885306

Dear Mr. Ray:

I appreciate your desire to retain me as your expert. The following summarizes my office's billing practices and a summary of certain other standard terms of engagement. Please notify me if you have concerns about any part of this contract so that we may quickly resolve any problems.

### Terms of Engagement Contract

#### Nature of Employment and Engagement Purpose:

My engagement is limited to the matter of mitigation and attorney consultation in the above referenced case. Specifically, I shall provide the following services:

- Investigate issues
- Collect and interpret data
- Interview witnesses, family members, friends, employers, etc. for possible mitigation information
- Ascertain competency to stand trial status
- Determine if the defendant's mental state at the time of the offense is at issue
- Explore and develop all aspects of mitigation data
- Attorney consultation
- Assist in interpreting, understanding, and conveying to a jury the mitigation findings
- At this time, I have not been asked to evaluate the defendant for future dangerousness

By signing this contract, you authorize me to act on your behalf as your agent and to act as an agent of your office in connection with this case.

#### Estimated Case Fees:

You can expect that I would put in 75 to 90 hours prior to trial (or plea) and an additional 15 to 30 hours if testimony at mitigation is necessary. In addition, I utilize the services of a Social Worker and Psychological Associate to collect data for capital cases, as their time is billed at a much lower rate thereby reducing the cost to the State. The total estimated costs of mitigation services for a case, such as this capital case, is \$14,000 to \$17,000 plus expenses. The total fees may be more or less, depending on what is necessary to fully develop a particular case. I require a court order signed by the judge authorizing payment of my services before I will open the case or a \$15,000 retainer fee. The court order must include an authorized expenditure amount. Please note that travel fees are due at the time of travel.

Terms of Engagement Contract - Ray

2

**Billing:**

My services are based on an hourly rate of \$125 for all work except travel time, which is \$75/hour. Hours are recorded and billed in one-quarter hour (15-minute) time increments.

My statements contain a concise summary of each matter for which professional services were rendered and a fee was charged. In addition to my professional fees, my statements may include out-of-pocket expenses that my office has advanced on behalf of the client or the client's project. During the course of my service, it may be appropriate or necessary to hire third parties to provide services on behalf of the project. These services may include such things as consultation with other experts, psychological assistants, social workers, or research assistants. Psychological Assistants and Social Workers are utilized in order to reduce the overall cost of a comprehensive mitigation evaluation to the State. Psychological Assistants and Social Workers are always supervised directly by me. Some of the more common charges are detailed below:

Administrative and clerical time	\$20.00 per hour
Psychological Associate	\$50.00 per hour
Supervised doctorate level Psychologist	\$60.00 per hour
Social Worker	\$50.00 per hour
Long distance phone calls	.25 per minute
Photocopies	.10 per copy
Psychological Protocols	varies by instrument
Postage and Fed-Ex	cost
Mileage	.40 mile
Hotel	standard grade
Air Travel	coach fare
Meals/ per diem	\$35.00 per day
Taxi, Rental Car, etc.	cost

I invite my clients to discuss freely with me any questions that may arise concerning a fee charge for any matter. I want my clients to be satisfied with both the quality of my professional services and the reasonableness of the fees that I charge for these services. I will attempt to provide as much detailed billing information as may be required. I am willing to discuss with my clients any of the billing formats my office uses and what best suits the client's needs.

~~As noted, you or your law firm assume full responsibility of payment of fees. If fee payments are not made in accordance with the above agreement or court orders pre-authorizing payment of my services, I may stop all work and vacate the appointment, in which event you agree to assume sole responsibility for any and all damages and expenses that may result to you or your client(s). In the event of any litigation arising under the terms of this agreement, the prevailing party shall recover their reasonable attorney's fees.~~

**Work Consultation Outside of Area:**

For any travel considered "outside of area", when applicable and agreed upon in advance, the charge is \$75.00 per travel hour (or fraction thereof), plus expenses (transportation as discussed, food, lodging, and delivery of documents via such carries as FedEx).

**Deposition and Court Appearance:**

My rate of \$125 per hour is charged for deposition and court appearances. My hourly rate is charged from the time I arrive at the courthouse/designated office until the time that I am officially excused. Minimum court charge is \$800.00.

**Needed Information:**

I will provide my services as an expert in accordance with this engagement letter. You will provide me with such factual information and materials as required to perform the services identified in the engagement letter. I will keep you advised of developments as necessary to ensure the timely, effective, and efficient completion of my work.

**Confidentiality and Conflict of Interest:**

Regarding the ethics of my profession that will govern my behavior several points deserve emphasis. As a matter of professional responsibility, I am required to preserve the confidence and secrets of my clients as well as my patients. This obligation and the legal privilege for our communications exist to encourage candid and complete communication. I can perform truly beneficial services for a client only if I am aware of all information that might be relevant to my work as an expert. Consequently, I trust that our relationship will be based on mutual confidence and unrestrained communication in order to facilitate stellar service to you. Unless instructed otherwise, I believe that my work in this case is protected under attorney-client privilege.

I may be asked to represent a client with respect to interests that are adverse to those of another client who I represent in connection with another matter. During the term of this agreement, I agree that I will not accept representation of another client to pursue interests that are directly adverse to your interests unless and until I have made full disclosure to you of all the relevant facts, circumstances, and implications of my undertaking two representations and you have consented to my representation of the other client. In turn, you agree that you will be reasonable in evaluating such circumstances and you will give your consent if we can confirm to you in good faith that the following criteria are met:

1. There is no substantial relationship between any matter in which I am serving you and the matter for the other client.
2. My delivery of professional services to the other client will not implicate any confidential information that I have received from you.
3. My work for you and the discharge of my professional responsibilities to you will not be prejudiced by the other client for the other client has also consented in writing based on full disclosure of the relevant facts, circumstances, and implications of my undertaking the two representations.

By making this agreement, we are establishing the criteria that will govern the exercise of your right under applicable ethical rules to withhold consent to my representation of another client whose interest is adverse to yours. You will retain the right, of course, to contest in good faith my representation that the criteria have been met, in which event I would have the burden of supporting my representation to you.

**Termination of this Relationship:**

Upon completion of the matter to which this agreement applies, or upon earlier termination of our relationship, the relationship will end unless you and I have expressly agreed to continuation with respect to other matters. The representation is terminable at will by either party subject to ethical restraints and the payment of all fees and costs.

Your agreement to this engagement constitutes your acceptance of the foregoing terms and conditions. If any portion of this contract is unacceptable to you, please advise me now so that we can resolve any differences and proceed with a clear, complete, and consistent understanding of our relationship.

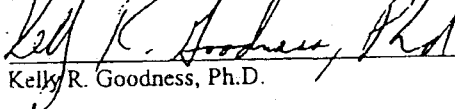
By signing below, you indicate that you agree with the above terms and agree to assume the responsibility for paying my

  
 \_\_\_\_\_

Signature

William RAY

Printed Name

  
 Kelly R. Goodness, Ph.D.

  
 7/10/03  
 \_\_\_\_\_  
 Date

06-16-03  
 \_\_\_\_\_  
 Date

# Exhibit G

## ADVANCES IN NEUROPSYCHIATRY

## Neuropsychiatry of frontal lobe dysfunction in violent and criminal behaviour: a critical review

M C Brower, B H Price

**Abstract**

**Objectives**—To establish the link between frontal lobe dysfunction and violent and criminal behaviour, based on a review of relevant literature.

**Methods**—Articles relating evidence of frontal lobe dysfunction with violence or crime were collected through a MEDLINE search using the keyword "frontal lobe" combined with the terms "aggression," "violence," "crime," "antisocial personality disorder," "psychopathy," "impulse control disorders", and "episodic dyscontrol." Reference lists were then searched for additional articles.

**Results**—High rates of neuropsychiatric abnormalities reported in persons with violent and criminal behaviour suggest an association between aggressive dyscontrol and brain injury, especially involving the frontal lobes. The studies reviewed support an association between frontal lobe dysfunction and increased aggressive and antisocial behaviour. Focal orbitofrontal injury is specifically associated with increased aggression. Deficits in frontal executive function may increase the likelihood of future aggression, but no study has reliably demonstrated a characteristic pattern of frontal network dysfunction predictive of violent crime.

**Conclusions**—Clinically significant focal frontal lobe dysfunction is associated with aggressive dyscontrol, but the increased risk of violence seems less than is widely presumed. Evidence is strongest for an association between focal prefrontal damage and an impulsive subtype of aggressive behaviour.

(*J Neurol Neurosurg Psychiatry* 2001;71:720-726)

**Keywords:** frontal lobe dysfunction; aggression; violence

Reports describing high rates of neuropsychiatric abnormalities among death row inmates, forensic psychiatric inpatients, and other persons with histories of violence have led to assertions that evidence of brain-behavioural impairment may mitigate or excuse criminal conduct.<sup>1-4</sup> Frontal lobe dysfunction in particular, has been invoked to explain the actions of, some persons charged with, or convicted of, violent crimes, who apparently fail to inhibit

impulsive, trivially motivated, or habitual aggression.<sup>5-7</sup> But whereas clinical observation and current theories of prefrontal network function suggest that frontal lobe disorders may contribute to violent and criminal behaviour, the strength of this hypothesised association has yet to be established.

This paper evaluates the evidence for a causal relationship between abnormal frontal lobe function and violent crime, based on a review of current research literature. We located articles using a MEDLINE search from 1966 through 2000, combining the keyword "frontal lobe" with the terms "aggression," "violence," "crime," "antisocial personality disorder," "psychopathy," "impulse control disorders", and "episodic dyscontrol." We then conducted a hand search of relevant reference lists. Articles were selected for review if they contained clinical, laboratory, or neuropsychological test data relating frontal lobe function to aggression, crime, or violence. In this review, we adopt the definition of aggression as any threatening or physically assaultive behaviour directed at persons or the environment. "Violence" refers to actions that inflict physical harm in violation of social norms. We divide our findings under the following headings: (1) studies relating clinical focal frontal lobe disorders to violent behaviour; (2) studies reporting neuropsychological measures of frontal lobe function in aggressive and antisocial subjects; (3) studies of clinical neurological findings in violent and criminal populations; and (4) neuroimaging studies of aggressive and violent subjects. We conclude by assessing the magnitude and specificity of the hypothesised link between frontal lobe dysfunction and violence, and discuss implications for future research.

**Focal frontal lobe disorders and violent behaviour**

Case studies as far back as 1835 have reported the onset of antisocial personality traits after frontal lobe injury.<sup>8</sup> Such cases typically involve damage to the orbitofrontal cortex, which clinical observation has associated with "poor impulse control, explosive aggressive outbursts, inappropriate verbal lewdness, jocularity, and lack of interpersonal sensitivity."<sup>9</sup> Such gross dysregulation of affect and behaviour may occur while cognitive, motor, and sensory functioning remain relatively intact.<sup>10</sup> Blumer

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final form

7 June 2001

Accepted 2 July 2001

and Benson dubbed this orbitofrontal syndrome "pseudopsychopathy,"<sup>18</sup> based on similarities to psychopathy—a personality type that, as defined by reliable and valid checklist criteria, is strongly associated with violence and criminality.<sup>11–13</sup>

Case reports have described a similar syndrome of "acquired sociopathy" in persons who had ventromedial prefrontal injury in adulthood.<sup>14–16</sup> Although showing minimal impairments on standard neuropsychological tests of intelligence and executive functions, these subjects display marked deficits in real life tasks demanding judgment, awareness of socially appropriate conduct, and the capacity to assess future consequences.<sup>17</sup> Persons with frontal network damage acquired before the age of 8 have also been reported to have adult histories of recurrent impulsive, aggressive, and antisocial behaviour, associated with primary deficits in tests of executive function, poor abstract conceptual thinking, inability to envision another person's subjective experience, and immature moral reasoning.<sup>18–20</sup> One report, however, has described two cases of improvement in impulsive and antisocial behaviour after frontal traumatic brain injury in adulthood.<sup>21</sup>

Large systematic studies on cohorts of war veterans with head injury have also tended to find an association between frontal lobe lesions and aggressive or antisocial behaviour, although the prevalence of actual violent crime seems small. Among German researchers who described personality changes in first world war and second world war veterans with frontal lobe injuries, Kleist found a consistent relation between orbitofrontal lesions and subsequent antisocial behaviour.<sup>8</sup> Five patients (3%) in a sample of 144 British second world war veterans with penetrating head injury committed "crimes and misdemeanors," though all five had damage limited to the frontal lobes.<sup>22</sup> Less than 5% of all subjects with frontal lobe injury in a similar study of Finnish second world war veterans had a history of criminal conviction, and only one had committed a violent offence.<sup>23</sup>

The Vietnam Head Injury Study (VHIS) found that subjects with lesions limited to the frontal lobes tended to show more aggressive and violent behaviours compared with patients with non-frontal head injury and controls without head injury.<sup>24</sup> About 14% of subjects with frontal lobe injury engaged in fights or damaged property, compared with about 4% of controls without head injury. The study also found a significant association between increased aggression and focal mediofrontal and orbitofrontal injury identified on brain CT. Reports have also found higher rates of antisocial behaviour (including stealing, physical assault, and sexual comments or advances) in patients with frontotemporal dementia, even when compared with equally cognitively impaired patients with Alzheimer's disease.<sup>25, 26</sup>

All of these studies were retrospective, and most did not adequately control for known violence risk factors. The VHIS study, for example, did not report on prior history of

aggression, substance misuse, stability of employment, socioeconomic status, the presence of psychiatric symptoms or disorders other than depression, or criminal charges or other legal involvement. Without such data, it remains unclear how much of the increases in aggressive behaviour found can be specifically attributed to focal frontal lobe injury.

### Neuropsychological studies of aggressive and antisocial subjects

A previous comprehensive review of neuropsychological studies by Kandel and Freed (1989) found that "evidence for the association between specifically violent criminal behaviour and frontal lobe dysfunction is weak at best."<sup>27</sup> A subsequent review by Pennington and Ozonoff concluded that comorbid attention deficit hyperactivity disorder (ADHD) most likely accounted for deficits in frontal executive function linked with adolescent conduct disorder, but considered that ADHD might worsen aggression in such cases.<sup>28</sup> Table 1 summarises results of relevant neuropsychological studies reported since 1989.<sup>29–36</sup>

One study reported that errors on a single subtest in a battery of executive function measures correlated significantly with a diagnosis of antisocial personality disorder in a male community sample.<sup>29</sup> A small study of subjects addicted to cocaine, all of whom met diagnostic criteria for antisocial personality disorder, found that high violence subjects as a group scored significantly better than low violence subjects on a widely accepted measure of frontal executive functioning.<sup>30</sup> By contrast, two studies using a laboratory based procedure designed to elicit aggressive behaviour have correlated decreased performance on executive function tests with increased aggression in community samples of male subjects without neurological, psychiatric, or substance misuse histories.<sup>31, 32</sup>

A prospective study found that low scores on executive function tests significantly predicted self reported aggression in 10 to 12 year old boys with paternal histories of substance misuse, but the results did not control for ADHD.<sup>33</sup> The same lead authors conducted a subsequent case-control study of aggression in conduct disordered adolescent females, controlling for ADHD: low executive function scores retained a significant independent correlation with physically aggressive antisocial behaviour.<sup>34</sup> In a 1 year prospective study of forensic psychiatric inpatients who had committed a violent crime, low scores on three tests of frontal executive function significantly predicted frequency of aggression, accounting for 57% of the variance.<sup>35</sup> Although studies of psychopathic subjects have not demonstrated frontal executive dysfunction,<sup>27</sup> one report found that, compared with non-psychopathic criminals, psychopathic criminals showed significant deficits on tests specifically selected to assess orbitofrontal and ventromedial functioning.<sup>36</sup>

Overall, these neuropsychological studies tend to support a significant association between prefrontal executive dysfunction

and "purposeless" violent behaviour.<sup>56 57</sup> Another PET study of "impulsive aggression" found that, compared with non-psychiatric controls, patients with personality disorders (chiefly antisocial, borderline, and narcissistic) showed decreased anterior medial and left anterior orbitofrontal metabolism, which correlated with increased scores on a self reported aggression scale.<sup>58</sup> Frontal cortex metabolism did not distinguish patients with antisocial personality disorder from controls.

Another study examined 41 persons charged with murder or manslaughter, who were referred for PET in connection with psychiatric evaluations for criminal responsibility, competence to stand trial, or claims of mitigation.<sup>59</sup> Compared with controls (matched for age, sex, and diagnosis of schizophrenia, if present), "murderers" as a group showed statistically significant bilateral prefrontal metabolic decreases during a frontal lobe activation task. A follow up report on the same subjects found that only those subjects blindly rated as lacking histories of psychosocial deprivation had significantly lower overall prefrontal metabolic rates.<sup>60</sup> A further study separated these same subjects into "predatory" versus "affective" murderers, based on a forensic typology distinguishing controlled, purposeful aggression to achieve a desired goal from impulsive, emotionally charged aggression.<sup>61</sup> Affective murderers had significantly lower prefrontal metabolic activity compared with controls, whereas frontal metabolism in predatory murderers resembled controls. In a PET study of healthy volunteer subjects who were instructed to imagine a scenario involving their own aggressive behaviour, visual evocation of unrestrained aggression correlated with significant focal reductions in ventromedial frontal blood flow, compared with an emotionally neutral scenario.<sup>62</sup>

The cumulative evidence from these neuroimaging studies points to a strong association between increased aggression and reduced prefrontal cortical size or activity. Although most studies cite bilateral prefrontal abnormalities, others specifically cite left anterior frontal or orbitofrontal findings, as well as non-frontal brain regions. These inconsistencies may reflect variation related to experimental conditions, limitations of imaging technology, or subject selection. Most of the subjects in these studies had known or suspected psychiatric disorders potentially contributing to alterations in prefrontal function. Studies using PET have documented focal decreases in frontal cortical activity associated with various neuropsychiatric disorders, as well as transient mental states, such as induced sadness, and episodes of mood disorder.<sup>63-65</sup> The reported reductions in prefrontal size or activity may, therefore, represent a predisposition to affective states relevant to aggressive behaviour, without necessarily signifying an incapacity to avoid actual violent acts.<sup>66</sup> The trend in neuroimaging findings, which associates prefrontal abnormalities with "purposeless" or

affective aggression, as opposed to premeditated or predatory behaviour, supports this interpretation.

## Discussion

The studies surveyed in this review indicate that clinically significant frontal lobe dysfunction is associated with aggressive dyscontrol. Subjects with both traumatic and neurodegenerative disorders primarily involving the prefrontal cortex display increased rates of aggressive and antisocial behaviour compared with subjects who have no, or non-frontal brain injury. Studies employing neuropsychological testing, neurological examination, EEG, and neuroimaging have also tended to find evidence for increased rates of prefrontal network dysfunction among aggressive and antisocial subjects. Prefrontal network dysfunction seems to be most specifically associated with a recurrent, impulsive subtype of aggression that may contribute to some violent behaviour. Two prospective studies suggest that in populations at risk for antisocial or aggressive behaviour, performance on neuropsychological tests of executive function may have value in assessing future likelihood of aggression.<sup>33 35</sup> No study, however, shows that disorders of prefrontal cortex predict violent crime.

Methodological problems in this literature include a lack of prospective data, small subject numbers and lack of adequate controls for known violence risk factors. Study samples often draw from groups (prisoners, attorney referrals, or those with severe neurological or psychiatric illness) that do not mirror the general population or even the larger criminal population. Reports describing persons charged with violent crimes tend to cite gross measures of brain function with low specificity and questionable clinical significance, while failing sufficiently to relate the clinical data to the specific aggressive behaviours in question. Standard neuropsychological tests of executive function typically employed in studies of antisocial subjects also may not detect orbitofrontal or ventromedial dysfunction relevant to aggressive behaviour. Although the bulk of research on violent and criminal behaviour points to multiple, probably interacting, causal factors, few studies attributing violent crime to frontal lobe dysfunction adequately address concurrent psychosocial variables such as emotional stress, drug and alcohol misuse, physical and sexual abuse, family breakdown, and poverty.<sup>4</sup>

Studies of subjects with acquired frontal lobe injury support the expected association of increased aggression with focal orbitofrontal, or ventromedial frontal injury, or both. The neuropsychological literature, however, tends to find increased aggressive behaviour associated with deficits in executive function, which correlate with dorsolateral prefrontal dysfunction.<sup>31 32</sup> One hypothesis to account for discrepant localisation data is that orbitofrontal and dorsolateral prefrontal dysfunction contribute to aggressive dyscontrol in different ways. Dorsolateral dysfunction may predominate in persons with comorbid features of fetal or birth

related brain injury, developmental learning disorders, attention deficit hyperactivity disorder, substance misuse, and antisocial personality disorder.<sup>28-67</sup> Elliot characterised this group as having episodic aggressive dyscontrol rooted in "developmental deviance" manifested by "attention deficit disorder and minimal brain dysfunction," and associated with neurological soft signs and executive function deficits.<sup>68</sup> Resulting educational and social failure likely contribute to aggressive and antisocial life adaptation, as well as to associated poor neuropsychological test performance. Executive function deficits, therefore, may increase the risk of violence via direct effects on impulse control or through associated psychosocial effects, or both, either interactively or independently.

Persons who have clinically evident neuropsychiatric disorders involving focal injury to structural-functional components of the frontal network, particularly the orbital and ventromedial prefrontal cortex, comprise a different group. Retrospective data strongly support a link between the disinhibited type of frontal network syndrome and aggressive dyscontrol. Case descriptions suggest that focal orbitofrontal injury specifically impairs capacities for social judgment, risk avoidance, and empathy that inhibit inappropriate or reflexive aggression. The actual frequency of violent behaviour, however, seems relatively low. Based on results reviewed here,<sup>24-48</sup> a reasonable conjecture for the increased risk of violence associated with clinically significant focal frontal lobe injury might be 10% over the base rate for a given population. Confirmation of this estimate must await prospective studies.

In addition to using prospective design, future studies testing the relation between frontal lobe dysfunction and aggression should incorporate controls for known risk factors contributing to violent behaviour. Clinical description of the nature and extent of frontal lobe impairments, coupled with attention to the type (premeditated versus impulsive), frequency, and severity of aggressive behaviour, should help to clarify the brain-behaviour relations involved. Accurate measurement of the increased risk of violence in subjects with prefrontal dysfunction also requires comparison with rates of aggression in appropriate controls. The neuropsychiatric evaluation of violent patients should include clinical assessment for frontal lobe impairment and neuropsychological evaluation of executive functions, particularly in cases involving recurrent, impulsive aggression. Further progress in the study of aggression and frontal lobe dysfunction will require a forensically informed, interdisciplinary approach that integrates neuropsychiatric, neuropsychological, and psychophysiological methods for the study of brain localisation, social cognition, and emotional processing. Better understanding of brain injury and aggression can then inform medical, public health, and social policy interventions to prevent violence.<sup>69</sup>

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